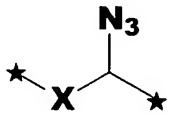
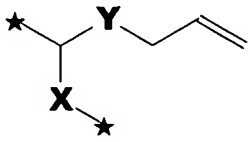
IN THE CLAIMS:

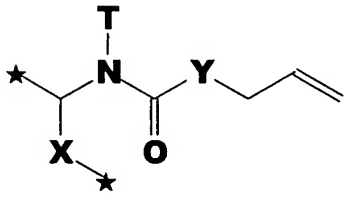
1. (previously presented) A nucleotide or nucleoside having a base attached to a detectable label via a cleavable linker, characterised in that the cleavable linker contains a moiety selected from the group consisting of:



,

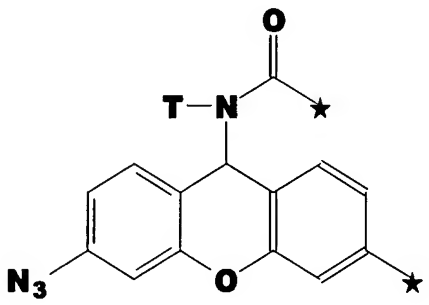


,



,

and



,

wherein X is selected from the group consisting of O, S, NH and NQ wherein Q is a C_{1-10} substituted or unsubstituted alkyl group, Y is selected from the group consisting of O, S, NH and N(allyl), T is hydrogen or a C_{1-10} substituted or unsubstituted alkyl group and * indicates where the moiety is connected to the remainder of the nucleotide or nucleoside.

2. (original) The nucleotide or nucleoside as claimed in claim 1 wherein X is O or S.

3. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein Y is O or S.

4. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein Y is O.

5. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the moiety may be present in the nucleotide or nucleoside in either of two orientations.

6. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the base is a purine, or a pyrimidine.

7. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the linker is attached to the 5-position of a pyrimidine or 7-position of a purine.

8. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the base is a deazapurine.

9. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the nucleotide has a ribose or deoxyribose sugar moiety.

10. (original) The nucleotide or nucleoside as claimed in claim 9 wherein the ribose or deoxyribose sugar comprises a hydroxyl protecting group attached to the 2' or 3' oxygen atom.

11. (original) The nucleotide or nucleoside as claimed in claim 10 wherein the same chemical conditions may be used to effect cleavage of the cleavable linker and to remove the hydroxyl protecting group.

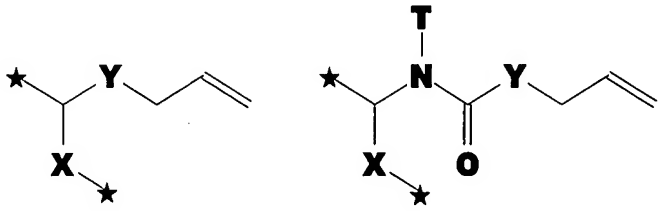
12. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the nucleotide is a deoxyribonucleotide triphosphate.

13. (previously presented) The nucleotide or nucleoside as claimed in claim 1 wherein the detectable label is a fluorophore.

14. (previously presented) An oligonucleotide comprising one or more nucleotides as defined in claim 1.

15. (original) The oligonucleotide as claimed in claim 14 wherein at least one nucleotide is present at a terminal position in said oligonucleotide.

16. (previously presented) A method of cleaving a linker that contains a moiety selected from the group consisting of:



and ,

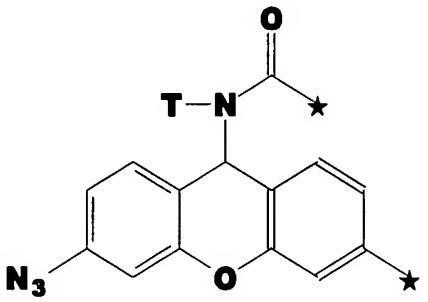
wherein X is selected from the group consisting of O, S, NH and NQ wherein Q is a C_{1-10} substituted or unsubstituted alkyl group, Y is selected from the group consisting of O, S, NH and N(allyl), T is hydrogen or a C_{1-10} substituted or unsubstituted alkyl group

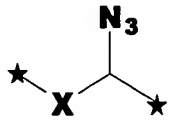
and * indicates where the moiety is connected to the remainder of a nucleotide or nucleoside,
said linker being present in a nucleotide or nucleoside and connecting the base thereof to a detectable label, said method comprising contacting the nucleotide or nucleoside with a water-soluble phosphine-based transition metal catalyst.

17. (previously presented) The method as claimed in claim 16 wherein the transition metal is selected from the group consisting of platinum, palladium, rhodium, ruthenium, osmium and iridium.

18. (original) The method as claimed in claim 16 wherein the transition metal is palladium.

19. (previously presented) A method of cleaving a linker that contains a moiety selected from the group consisting of:





and ,

wherein X is selected from the group consisting of O, S, NH and NQ wherein Q is a C_{1-10} substituted or unsubstituted alkyl group, T is hydrogen or a C_{1-10} substituted or unsubstituted alkyl group and * indicates where the moiety is connected to the remainder of a nucleotide or nucleoside,

said linker being present in a nucleotide or nucleoside and connecting the base thereof to a detectable label, said method comprising contacting the nucleotide or nucleoside with a water-soluble phosphine.

20. (previously presented) The method as claimed in claim 16 wherein said phosphine is a derivatised triaryl phosphine or a derivatised trialkyl phosphine.

21. (previously presented) The method as claimed in claim 16 wherein said phosphine is a triaryl phosphine derivatised with one or more functionalities selected from the group consisting of amino, hydroxyl, carboxyl and sulfonate.

22. (previously presented) The method as claimed in claim 16 wherein the water-soluble phosphine is selected from the group comprising 3,3',3"-phosphinidyne*tris* (benzenesulfonic acid) or *tris*(2-carboxyethyl)phosphine and their salts.

23. (previously presented) The method as claimed in claim 16 wherein said phosphine contains one or more nitrogen atoms.

24. (previously presented) The method as claimed in claim 16 wherein X is O or S.

25. (previously presented) The method as claimed in claim 16 wherein Y is O or S.

26. (previously presented) The method as claimed in claim 16 wherein Y is O.

27. (currently amended) The method as claimed in claim 16 or 19 wherein the moieties may be present in the nucleoside or nucleotide in either of two orientations.

28. (currently amended) The method of claim 16 or 19 wherein said label is detected before said linker is cleaved.

29. (original) The method of claim 28 wherein said method involves cleavage of the linker in a nucleotide which is incorporated into an oligonucleotide.

30. (original) The method of claim 29 wherein said incorporated nucleotide is present at a terminal position in said oligonucleotide.

31. (previously presented) The method as claimed in claim 16 wherein the base is a purine, or a pyrimidine.

32. (original) The method of claim 31, wherein the linker is attached to the 5-position of a pyrimidine or 7-position of a purine.

33. (previously presented) The method as claimed in claim 16 wherein the base is a deazapurine.

34. (previously presented) The method as claimed in claim 16 wherein the nucleotide has a ribose or deoxyribose sugar moiety.

35. (original) The method as claimed in claim 34 wherein the ribose or deoxyribose sugar comprises a hydroxyl protecting group attached to the 2' or 3' oxygen atom.

36. (previously presented) The method as claimed in claim 16 wherein the nucleotide is a deoxyribonucleotide triphosphate.

37. (previously presented) The method as claimed in claim 16 wherein the detectable label is a fluorophore.

38. (previously presented) The method as claimed in claim 29 wherein the incorporating step is effected by a reverse transcriptase, a terminal transferase or a polymerase.

39. (original) The method of claim 38 wherein the polymerase is a *Thermococcus sp*.

40. (original) The method of claim 39 wherein the *Thermococcus sp* is 9°N or a single mutant or double mutant thereof.

41. (original) The method of claim 40 wherein the double mutant is -Y409V A485L.

42. (canceled).

43. (previously presented) The method as claimed in claim 29 wherein the incorporated nucleotide contains a 3'OH blocking group which serves to prevent incorporation of any further nucleotides.

44. (original) The method as claimed in claim 43 wherein the same chemical conditions used to effect cleavage of the cleavable linker serve to remove the 3'OH blocking group.

45. (previously presented) The method as claimed in claim 29 wherein the detecting step permits the identification of the incorporated nucleotide.

46. (original) A method for determining the identity of a nucleotide in a target single-stranded polynucleotide, comprising:

(a) providing one or more of the nucleotides A, G, C and T or U in which each of said nucleotides has a base that is attached to a distinct detectable label via a linker, said linker being cleavable with a water-soluble phosphine; and a nascent polynucleotide complementary to the target polynucleotide, one of said provided nucleotides being suitable for incorporation into said nascent polynucleotide;

(b) incorporating the nucleotide suitable for incorporation into said nascent polynucleotide; and

(c) carrying out a method as defined in claim 45.

47. (original) The method as claimed in claim 46 wherein steps (a) and (b) are repeated one or more times so as to determine the identity of a plurality of bases in the target polynucleotide.

48. (previously presented) A method as claimed in claim 46 wherein step (a) comprises contacting the provided nucleotides with the target sequentially.

49. (previously presented) A method as claimed in claim 46 wherein step (a) comprises at least one substep of providing one of the four said nucleotides.

50. (original) A method as claimed in claim 49 wherein step (a) further comprises, after said substep, providing the other three nucleotides simultaneously or sequentially.

51. (original) A method as claimed in claim 50 wherein said other three nucleotides are added sequentially, either by providing them one at a time; or two simultaneously and then the remaining one; or one of the three and then the remaining two simultaneously.

52. (previously presented) A method as claimed in claim 46 wherein step (a) comprises at least a substep of providing two of the four said nucleotides.

53. (original) A method as claimed in claim 52 wherein step (a) further comprises, after said substep, providing the other two nucleotides simultaneously or sequentially.

54. (previously presented) A method as claimed in claim 46 wherein step (a) comprises at least a substep of providing three of the four said nucleotides.

55. (original) A method as claimed in claim 54 wherein step (a) further comprises, after said substep, providing the remaining nucleotide of the four said nucleotides.

56. (previously presented) A method as claimed in claim 46 wherein step (a) comprises providing all four of the said nucleotides and contacting them with the target simultaneously.

57. (previously presented) A method as claimed in claim 46 wherein any unincorporated nucleotides are removed prior to the provision of further nucleotide(s) and/or the effecting of step (c).

58-59. (canceled).

60. (previously presented) A method of using a nucleotide of claim 1 wherein said method includes a Sanger or Sanger-type sequencing method.

61. (previously presented) The method as claimed in claim 19 wherein said phosphine is a derivatised triaryl phosphine or a derivatised trialkyl phosphine.

62. (previously presented) The method as claimed in claim 19 wherein said phosphine is a triaryl phosphine derivatised with one or more functionalities selected from the group consisting of amino, hydroxyl, carboxyl and sulfonate.

63. (previously presented) The method as claimed in claim 19 wherein the water-soluble phosphine is selected from the group consisting of 3,3',3"-phosphinidyne*tris* (benzenesulfonic acid) or *tris*(2-carboxyethyl)phosphine and their salts.

64. (previously presented) The method as claimed in claim 19 wherein said phosphine contains one or more nitrogen atoms.

65. (previously presented) The method as claimed in claim 19 wherein X is O or S.

66. (previously presented) The method as claimed in claim 19 wherein Y is O or S.

67. (previously presented) The method as claimed in claim 19 wherein Y is O.

68. (previously presented) The method as claimed in claim 19 wherein the moieties may be present in the nucleoside or nucleotide in either of two orientations.

69. (previously presented) The method of claim 19 wherein said label is detected before said linker is cleaved.

70. (previously presented) The method as claimed in claim 19 wherein the base is a purine, or a pyrimidine.

71. (previously presented) The method as claimed in claim 19 wherein the base is a deazapurine.

72. (previously presented) The method as claimed in claim 19 wherein the nucleotide has a ribose or deoxyribose sugar moiety.

73. (previously presented) The method as claimed in claim 19 wherein the nucleotide is a deoxyribonucleotide triphosphate.

74. (previously presented) The method as claimed in claim 19 wherein the detectable label is a fluorophore.